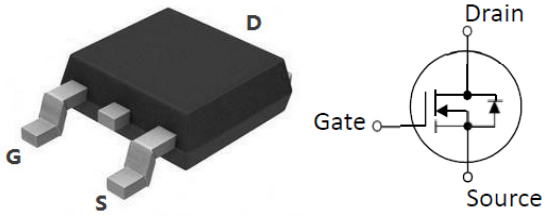
HNS 30V,10A N-Channel MOSFET

- Super Low Gate Charge
- Green Device Available
- Advanced high cell density Trench technology

SYMBOL



Description

The HNS30N10 is the high cell density trenched N-ch MOSFETs, which provide excellent RDSON and gate charge for most of the synchronous buck converter applications.

The HNS30N10 meet the RoHS and Green Product requirement, 100% EAS guaranteed with full function reliability approved.

Package Ordering Information

Device	Device Package	Reel Size	Tape width	Quantity
HNS30N10	TO-252	Ø330mm	16mm	2500 units

Absolute Maximum Ratings (T_A=25℃unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	±20	V
Drain Current-Continuous	I_D	10	A
Maximum Power Dissipation	P_D	25	W
Operating Junction and Storage Temperature Range	T_J,T_{STG}	-55 To 150	℃

Electrical Characteristics (T_A=25℃unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Off Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V,I_D=250μA	30	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=30,V_{GS}=0V	-	-	1	μA
Gate-Body Leakage Current	I_{GSS}	V_{GS}=±20,V_{DS}=0V	-	-	±100	nA
On Characteristics						
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS},I_D=250μA	1.0	-	2.5	V
Drain-Source On-State Resistance	$R_{DS(ON)}$	V_{GS}=10V,I_D=10A	-	6.5	8.5	mΩ
		V_{GS}=4.5V,I_D=10A	-	9.0	14	mΩ

Typical Electrical and Thermal Characteristics (Curves)

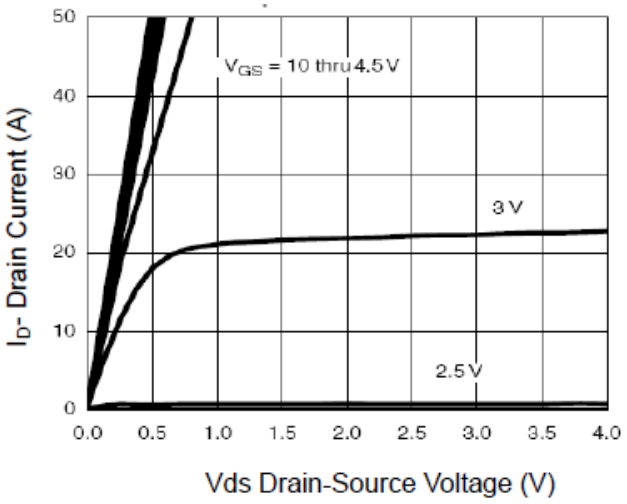


Figure 1 Output Characteristics

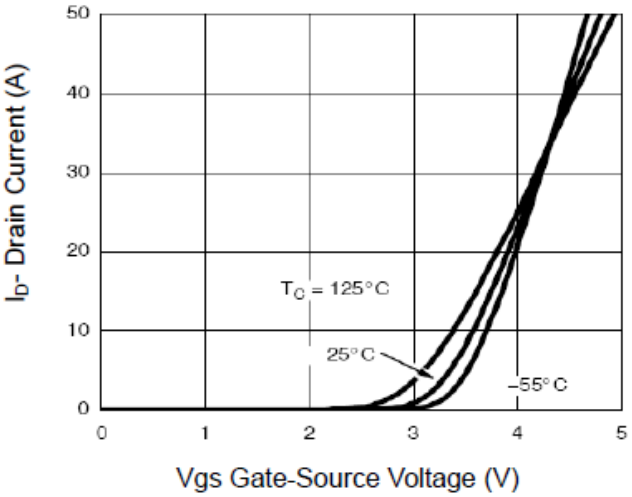


Figure 2 Transfer Characteristics

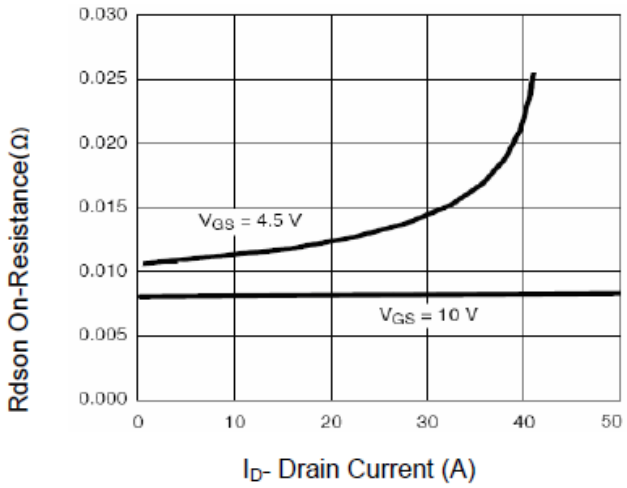


Figure 3 Rdson- Drain Current

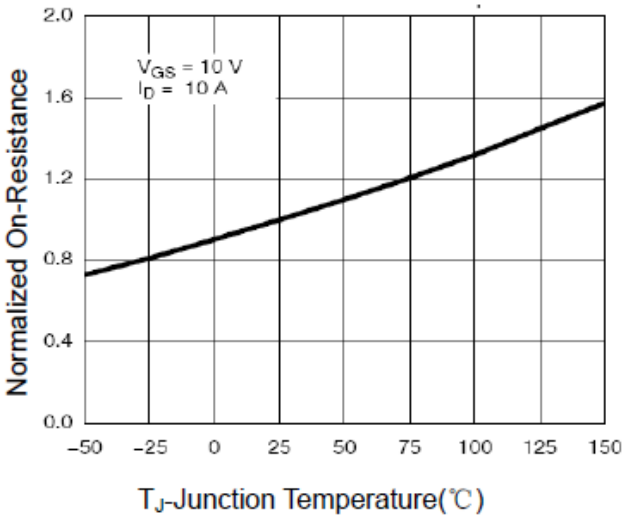


Figure 4 Rdson-JunctionTemperature

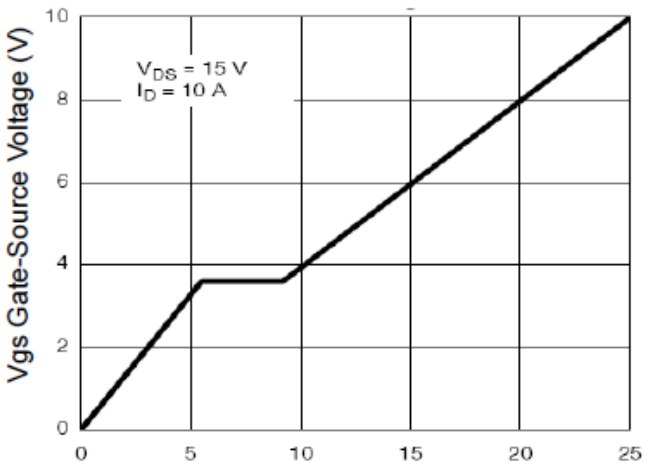


Figure 5 Gate Charge

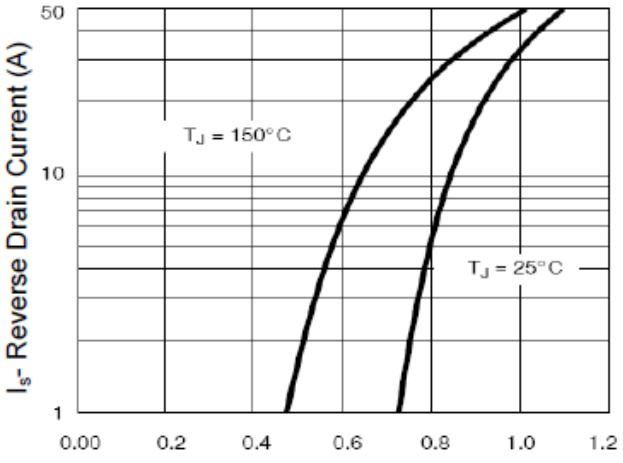


Figure 6 Source- Drain Diode Forward

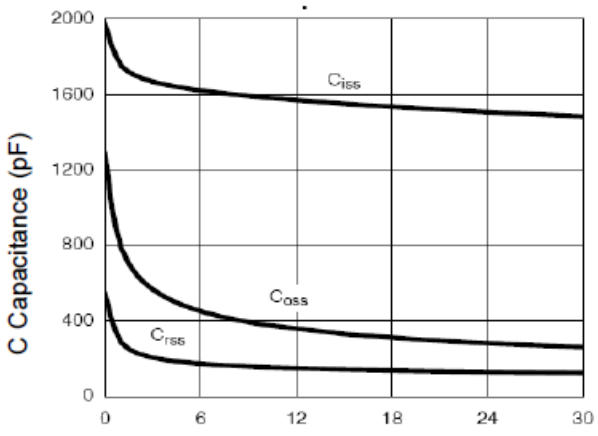


Figure 7 Capacitance vs Vds

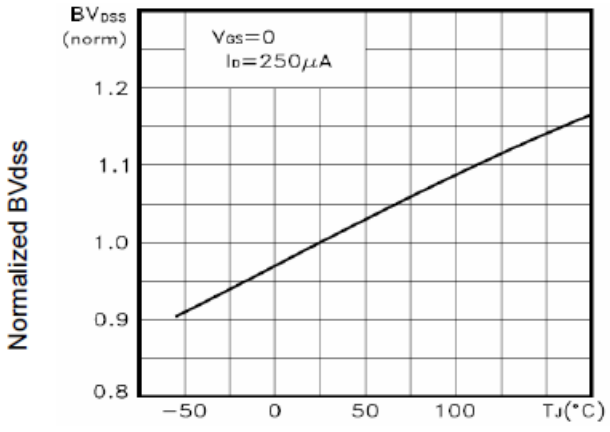


Figure 9 BV_{DSS} vs Junction Temperature

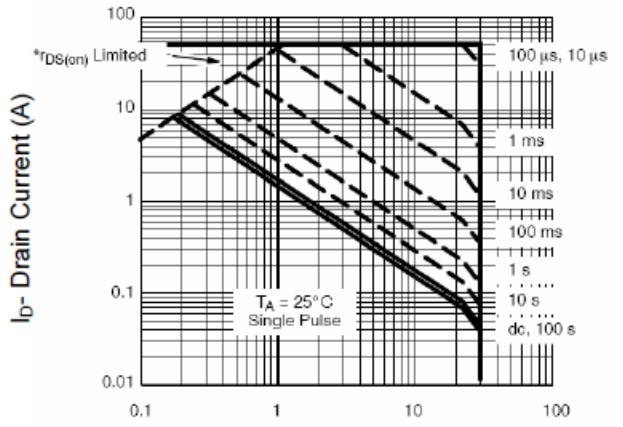


Figure 8 Safe Operation Area

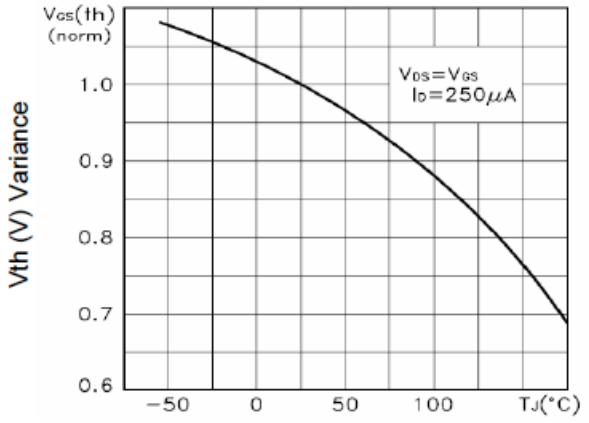


Figure 10 $V_{GS(th)}$ vs Junction Temperature

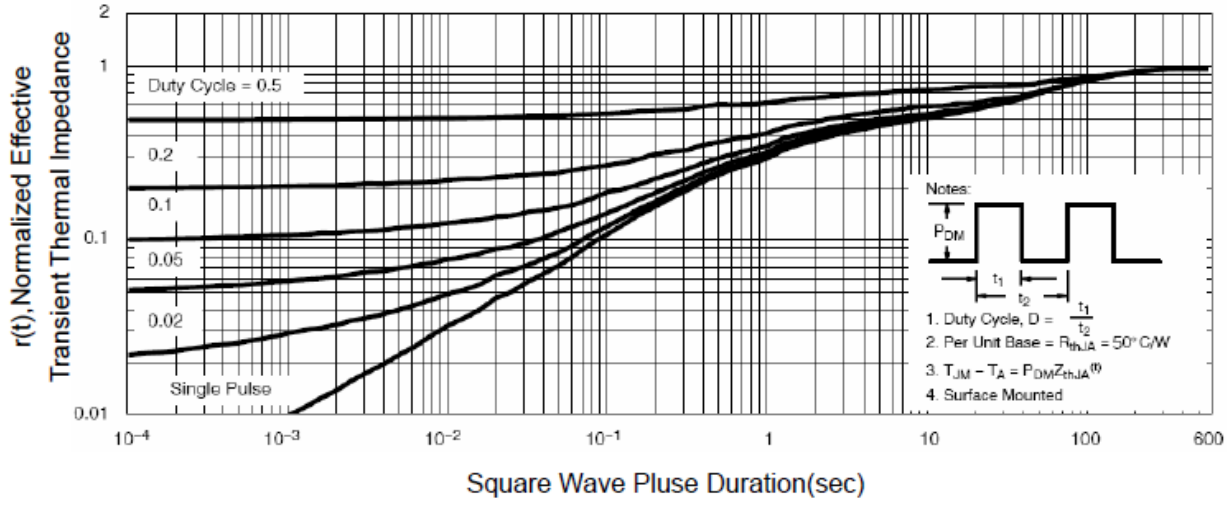
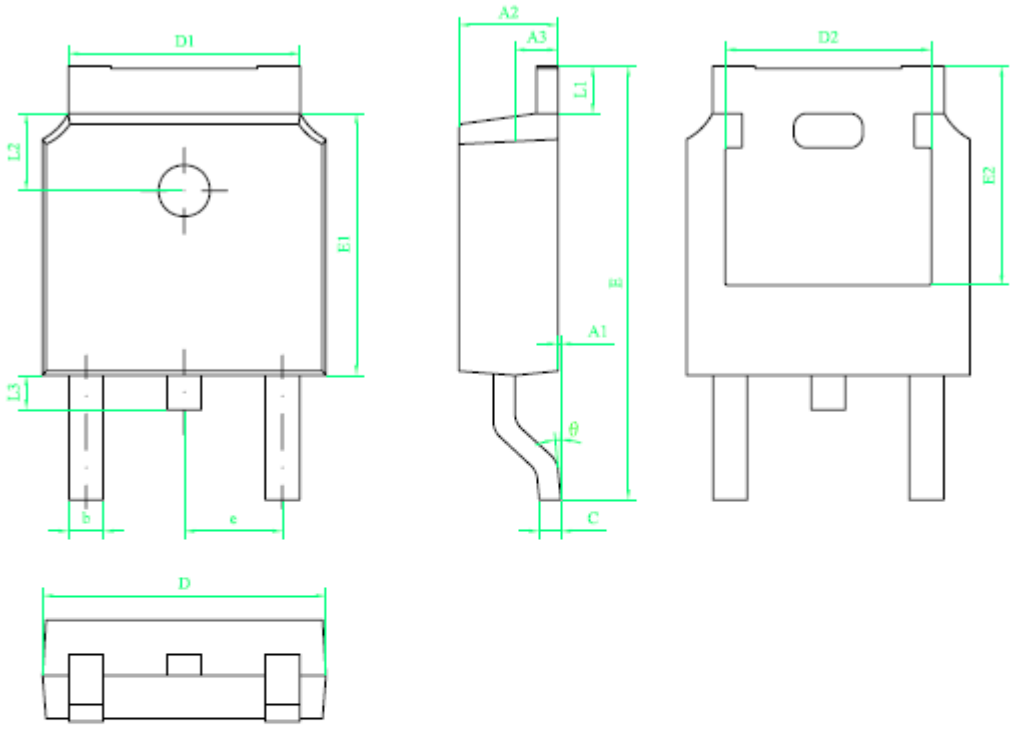


Figure 11 Normalized Maximum Transient Thermal Impedance

Package Mechanical Data

Mechanical data of TO-252

TO252-3L PACKAGE OUTLINE DIMENSIONS



符 号	尺 寸		
	min	nom	max
A1	0	——	0.10
A2	2.20	2.30	2.40
A3	0.90	1.00	1.10
b	0.75	——	0.85
c	0.50	——	0.60
D	6.50	6.60	6.70
D1	5.30	5.40	5.50
D2	4.70	4.80	4.90
E	9.90	10.10	10.30
E1	6.00	6.10	6.20
E2	5.20	5.30	5.40
e	2.20	2.286	2.40
L1	0.90	——	1.25
L2	1.70	1.80	1.90
L3	0.60	0.80	1.00
θ	0°	——	8°

技术要求：
1. 树脂体不应有崩裂、缺损等缺陷；
2. 树脂上下部X、Y方向偏差不超过0.20；
3. 胶体两端留废胶总和宽度不超过0.50；
4. 所有单位为mm；